

Two New Species of *Quadricalcarifera* STRAND from Japan (Lepidoptera: Notodontidae)

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Two new species of *Quadricalcarifera* will be described from Japan.

Quadricalcarifera cyanea (LEECH) (Figs. 1-2)

Somera cyanea LEECH, 1888, Proc. zool. Soc. Lond., **1888**: 642, pl. 32, fig. 5; LEECH, 1898, Trans. ent. Soc. Lond., **1898**: 307.

Stauropus viridipicta WILEMAN, 1910, Entomologist, **43**: 312, *syn. n.*

Desmeocraera viridipicta himiko NAKAMURA, 1956, Tinea, **3**: 142, *syn. n.*

In concluding the synonymy above, the author owed much to Mr. S. SUGI, who has examined the colour transparency of the holotype of *cyanea* submitted him by Mr. T. WITT, München. He suggested that it agreed with the taxon named *himiko* NAKAMURA as the Japanese subspecies of *viridipicta* WILEMAN from Taiwan.

The author considered that *Q. viridipicta*, itself from Taiwan, is a synonym of *Q. cyanea*, then another species hitherto incorrectly considered as *cyanea* is here described as new to science as follows.

Quadricalcarifera japonica sp. n. (Figs. 3-6)

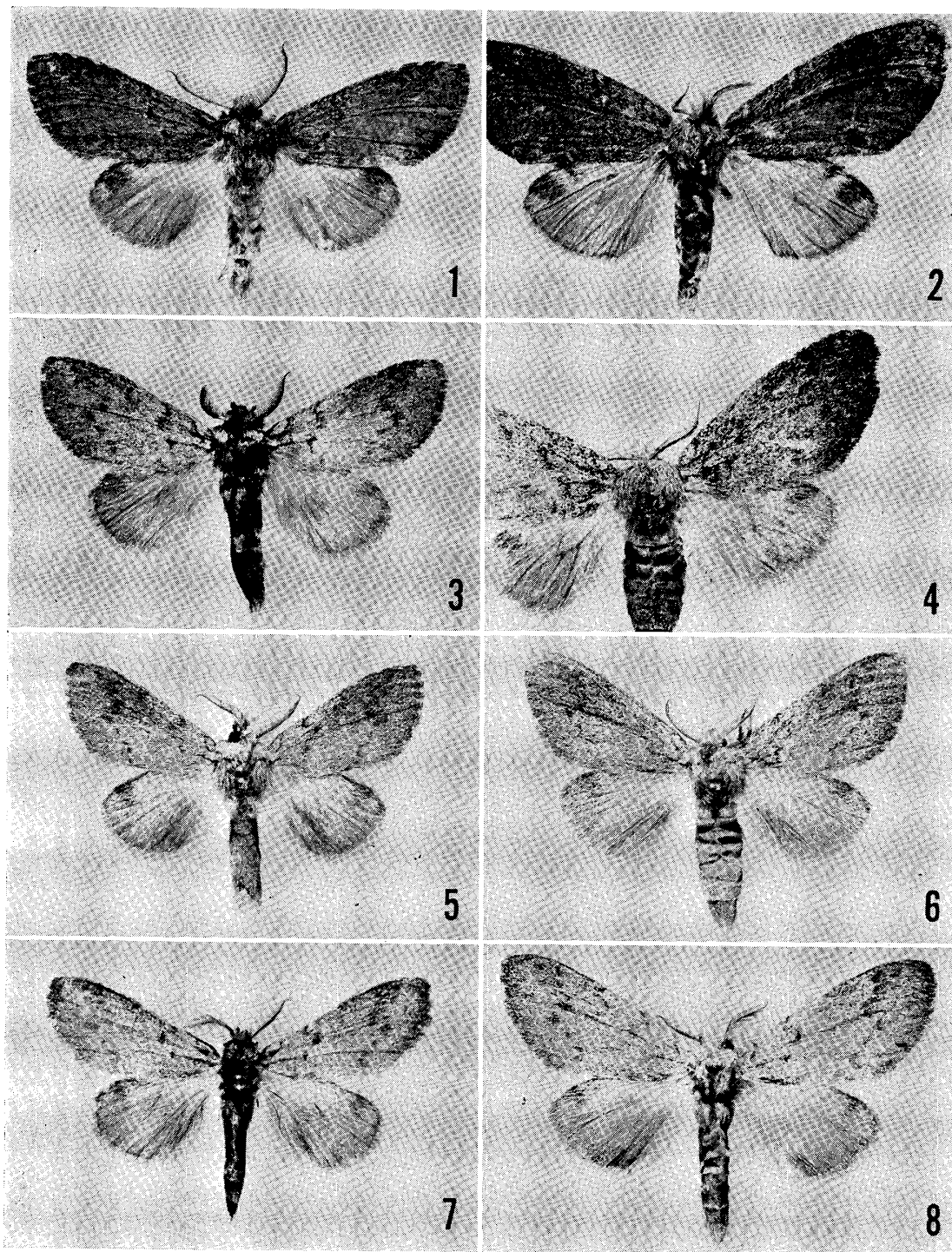
Readily distinguished from *Q. cyanea* by the following characters.

Length of forewing ♂, 17-20, ♀, 19-24 mm. In *cyanea* the area between ante- and postmedial fasciae brown, the outer and inner area suffused with metallic green scales, while in this species the area between ante- and postmedial fasciae yellowish green, concolous with the rest of forewing. Basal, ante- and postmedial fasciae are dark brown, well-marked. Discocellular spot white. Most closely related to *Q. subgeneris* (STRAND) in the greenish upper surface and the narrower postmedial fascia.

Male genitalia. As in fig. 10. Tegumen smooth, lacking the lateral processes which are present in *cyanea* (Fig. 9). Valva moderately stout, producing into process terminally. Aedeagus with spinules. Similar to those of *subgeneris* (Fig. 11), except for the shape of terminal portion of aedeagus.

Female genitalia. As in fig. 12, 14. The square ostium bursae separates this species from *subgeneris* (Figs. 15, 16).

Holotype: ♂, Hakone, Ubako Spa, Kanagawa Pref., Japan, 4. viii. 1965 (K. NAKATOMI). Paratypes. Honshû—Miyagi Pref.: 3 ♂, Tôgatta, 20. v. 1968 (T. WATANABE); 1 ♂, *loc. cit.*, 16-17. viii. 1969 (T. WATANABE); 2 ♂, Sakunami Spa, 22. vi. 1969 (T. WATANABE); 7 ♂, Nuruyu, 23. v. 1971 (T. WATANABE); 2 ♂, Shizugawa, 14. viii.



Figs. 1-8. *Quadricalcarifera* spp. 1. *Q. cyanea* (LEECH), ♂. 2. Ditto, ♀. 3. *Q. japonica* sp. n., holotype ♂. 4. Ditto, paratype ♀. 5. Ditto, paratype ♂. 6. Ditto, paratype ♀. 7. *Q. subgeneris* (STRAND), ♂. 8. Ditto, ♀.

1968 (T. WATANABE); 2 ♂, *loc. cit.*, 25. vii. 1971 (T. WATANABE). Fukushima Pref.: 5 ♂, Yunohana Spa, 5. vii. 1980 (H. KEZUKA, T. UMEZAWA, K. KINUGASA & K. NAKATOMI) Tochigi Pref.: 2 ♂, 1 ♀, Sannô Pass, 6. ix. 1980 (H. KEZUKA, T. UMEZAWA, K. NAKATOMI & A. SCHINTLMEISTER). Saitama Pref.: 5 ♂, Tochimoto, 29. viii. 1971 (H. NAKAJIMA

& K. NAKATOMI). Gunma Pref.: 3 ♂, Numata, 18. viii. 1972 (H. FUSE & K. NAKATOMI); 2 ♂, Tanigawa Spa, 5. vii. 1978 (Y. KISHIDA); 3 ♂, Doai, 31. viii. 1972 (H. FUSE). Tokyo: 10 ♂, Mt. Takao, 18. vi. 1960 (K. NAKATOMI); 6 ♂, *loc. cit.*, 1. vi. 1961 (H. HARADA); 8 ♂, *loc. cit.*, 10. vi. 1963 (H. HARADA); 1 ♂, Tama Hill, 12. iv. 1958 (T. MAENAMI); 1 ♂, Katakura, Hachiôji City, 25. viii. 1970, ex. larva, (K. NAKATOMI). Kanagawa Pref.: 3 ♂, same data as holotype; 6 ♂, 5 ♀, type locality, 30. viii. 1980, ex. larvae, (K. NAKATOMI). Nagano Pref.: 2 ♂, Shimashima-dani, 14. vii. 1968 (M. OWADA); Karuizawa, 1 ♂, 1. vi. 1958 (T. HARUTA). Niigata Pref.: 4 ♂, Ogi, Sado Is., 4. vii. 1976 (K. NAKATOMI). Mie Pref.: 1 ♂ Mt. Gozaisho-dake, 20–21. vi. 1963 (H. INOUE). Wakayama Pref.: Ôsugi-dani, 10 ♂, 30–31. vii. 1978 (R. SATO); 26 ♂, *loc. cit.*, 3–5. viii. 1978 (R. SATO & A. SEINO). Kyoto Pref.: 12 ♂, Sugi Pass, 9. viii. 1980 (K. NAKATOMI, S. KINOSHITA, A. KITAYAMA & A. SCHINTLMMEISTER). Shikoku—Kagawa Pref.: 1 ♂, 1 ♀, Oku-shio-iri, Chûnan, 10. vi. 1972 (H. TOSHIMA); 1 ♂, *loc. cit.*, 5. viii. 1972 (H. TOSHIMA); 1 ♂, Kôjin, Shio-noe, 27. viii. 1968 (H. TOSHIMA); 2 ♂, Mt. Zôzusan, 20. viii. 1972 (M. SATO); 1 ♂, *loc. cit.*, 15. v. 1973 (H. TOSHIMA). Tokushima Pref.: 1 ♂, Shôsanji, Myôzai, 31. vii. 1971 (M. OWADA). Ehime Pref.: 1 ♂, Nametoko, Kitauwa, 16. vii. 1971 (M. OWADA). Kyûshû—Fukuoka Pref.: 1 ♀, Ômuta City, 26. viii. 1971 (T. SATA); 1 ♂, *loc. cit.*, 6. iv. 1972 (T. SATA). Kumamoto Pref.: 1 ♂, Okawachi, Yamae-mura, Kuma-gun, 29. iv. 1978 (I. OTSUKA). Kagoshima Pref.: 19 ♂, Hanaze, Tashiro-chô, Ôsumi, 24. viii. 1973 (K. NAKATOMI); 7 ♂, *loc. cit.*, 20. viii. 1974 (K. NAKATOMI); 8 ♂, *loc. cit.*, 23. viii. 1974 (K. NAKATOMI); 16 ♂, *loc. cit.*, 4. viii. 1975 (K. NAKATOMI); 3 ♂, 2 ♀, *loc. cit.*, 6. ix. 1979, ex. larvae (K. NAKATOMI); 32 ♂, *loc. cit.*, 20. viii. 1980 (K. NAKATOMI & K. ZENPUKU); 5 ♂, Takatôge, Tarumizu City, 22. viii. 1972 (K. NAKATOMI); 2 ♂, Mt. Takakumayama, 28. iv. 1969 (H. FUKUDA); 1 ♂, Yunotani, Kirishima Spa, 4. viii. 1962 (Y. TAKEMURA); 1 ♂, *loc. cit.*, 20. vii. 1963 (Y. TAKEMURA); 1 ♂, *loc. cit.*, 23. vi. 1963 (Y. TAKEMURA); 2 ♂, Kirishima-jingû, 18. viii. 1970 (K. NAKATOMI).

Holotype and three paratypes will be deposited to the collection of National Science Museum (Nat. Hist), Tokyo.

Distribution. Honshû, Shikoku, Kyûshû.

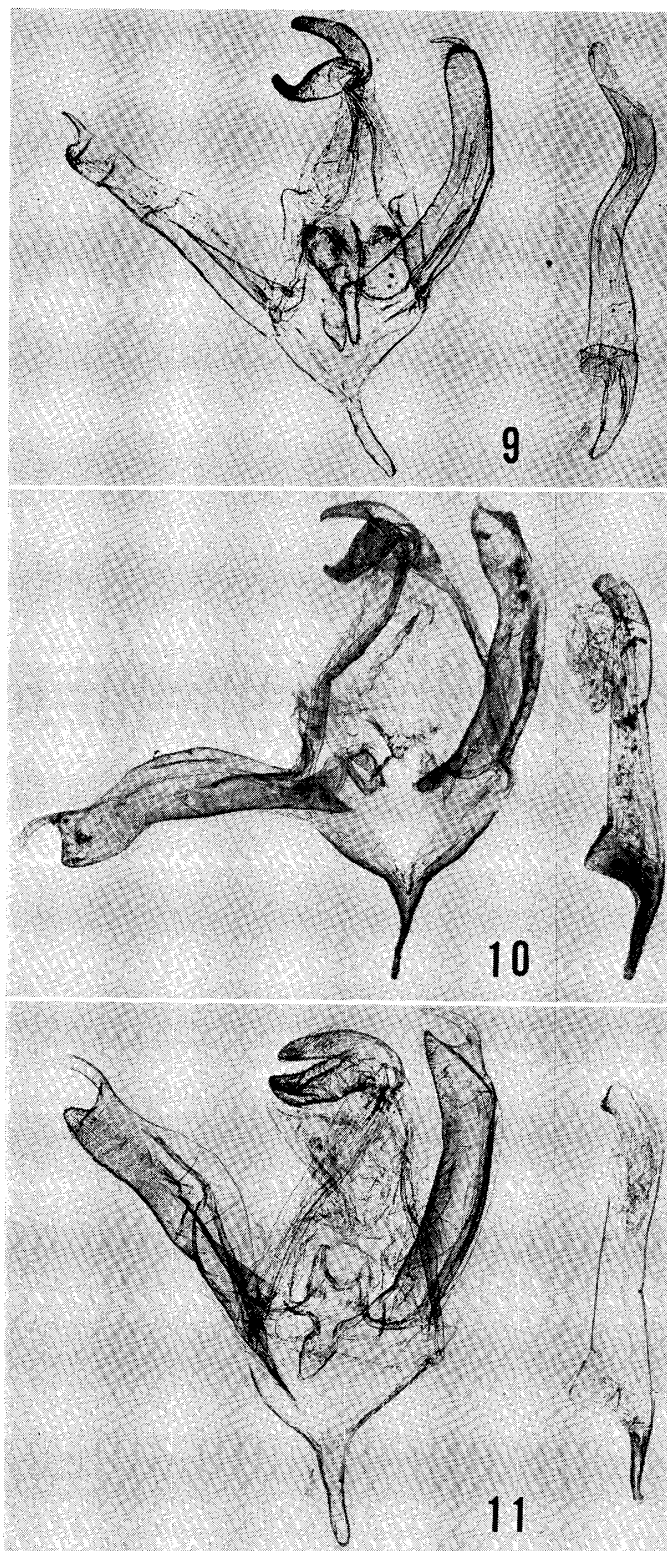
Host plant. *Styrax* spp. (Styracaceae).

Quadricalcarifera amamiensis sp. n.

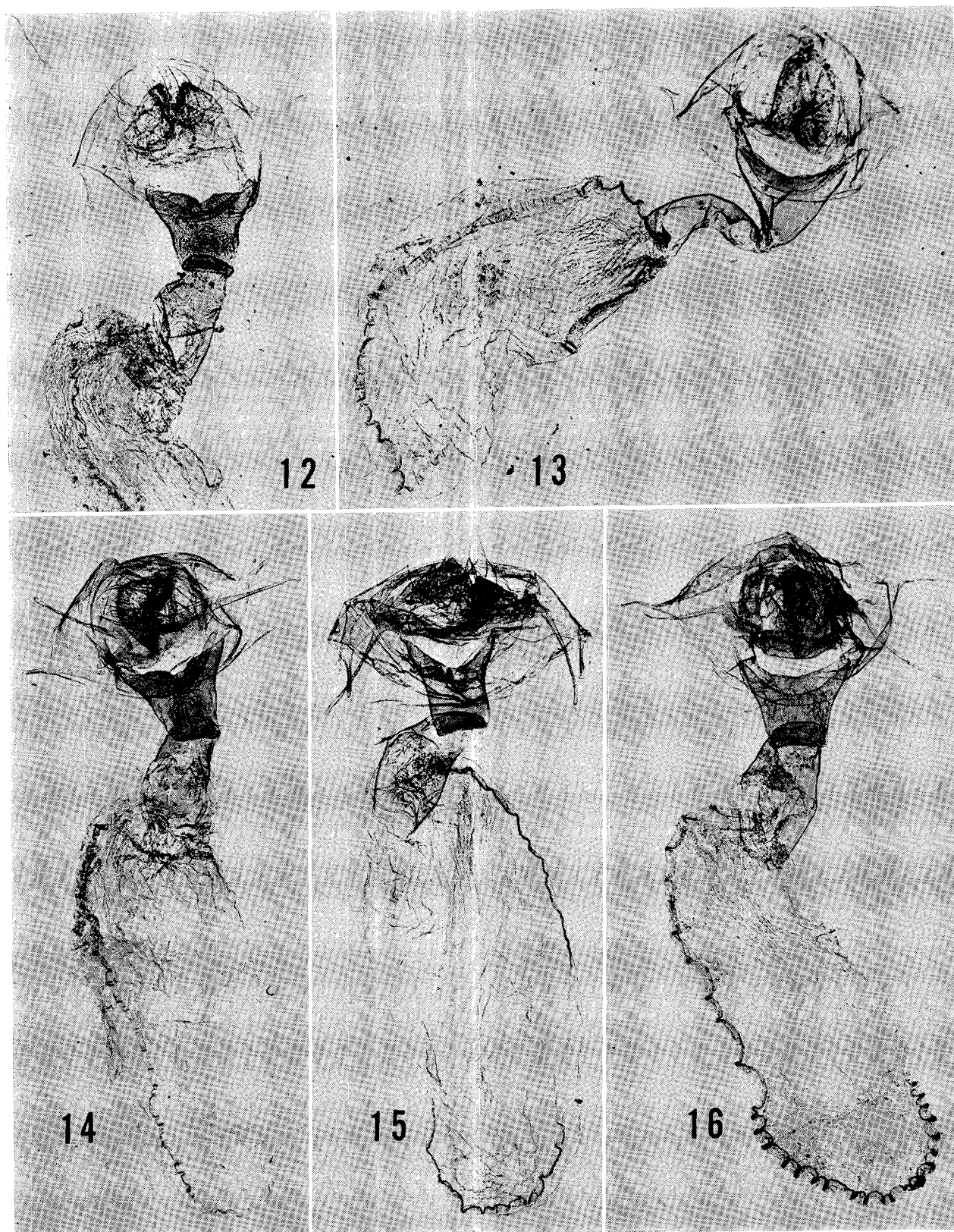
(Figs. 17–19)

Male. Length of forewing 19–23 mm. Antenna bipectinate from base to about six-sevenths of its length; antenna brown, shaft of it whitish. Palpus light brown. Head and thorax covered with white and brown hairs. Abdomen pale dark brown laterally and ventrally. Forewing brown in ground colour suffused with metallic green scales mixed with yellow and white; antemedial double fascia well-marked, dark brown, and proximal one broader; postmedial fascia weakly marked; subterminal brown fascia defined. Hind wing paler brown, costa white with subapical dark brown patch mixed with green and white scales.

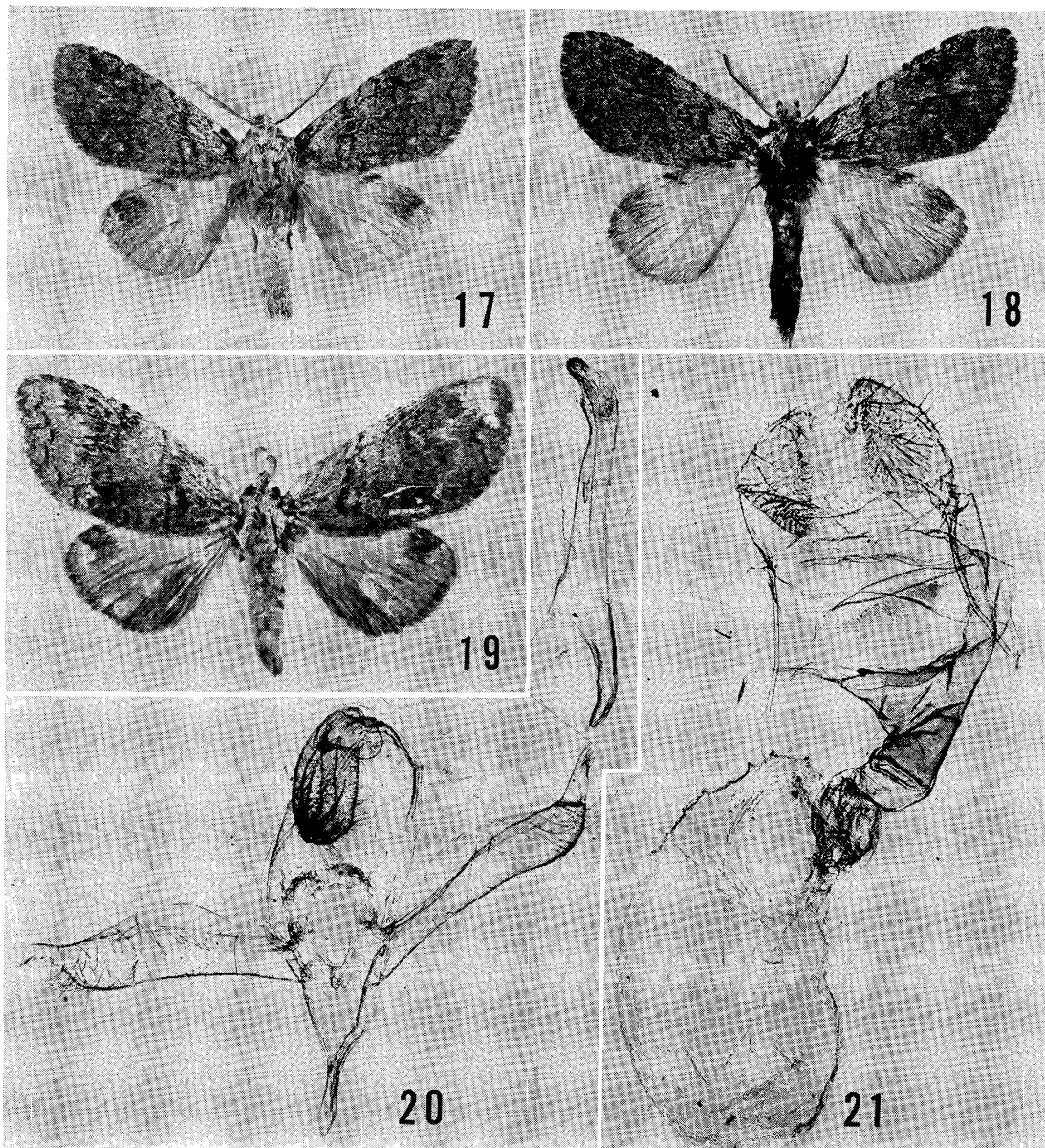
Female. Length of forewing 26–28 mm. Antenna bipectinate, but pectinations about 1/2 as long as those of male. Forewing suffused with white, between ante- and



Figs. 9-11. Male genitalia of *Quadricalcarifera* spp. 9. *Q. cyanea* (LEECH), Slide No. KN-3. 10. *Q. japonica* sp. n., paratype, Slide No. KN-1. 11. *Q. subgeneris* (STRAND) (Is. Okinawa-Hontô), Slide No. KN-5.



Figs. 12-16. Female genitalia of *Quadricalcarifera* spp. 12. *Q. japonica* sp. n. (Ômuta City), Slide No. KN-10. 13. *Q. cyanea* (LEECH), Slide No. KN-20. 14. *Q. japonica* sp. n. (Yamagata Pref.), Slide No. KN-11. 15. *Q. subgeneris* (STRAND) (Is. Tsushima), Slide No. KN-16. 16. Ditto (Is. Iriomotejima), Slide No. KN-17.



Figs. 17–21. *Quadricalcarifera amamiensis* sp. n. 17. Holotype, ♂. 18. Paratype, ♂. 19. Paratype, ♀. 20. Male genitalia, Slide No. KN-30. 21. Female genitalia, Slide No. KN-33.

postmedial fascia, and along costal margin; antemedial double fascia distinct, basal area with metallic green. Postmedial fascia well-defined, forming dark brown band, subterminal dentate fascia distinct.

Male genitalia (Fig. 20). Uncus produced into beak-like process covered with hairs. Valva moderately narrow with a process. Tegumen narrow with no lateral process. Aedeagus broadened and curved terminally, ending in a round terminal process with fine spinules. Saccus triangular with a long process. Eighth sternite angular with a long proximal process, distal margin slightly concave in middle.

Female genitalia (Fig. 21). Ostium bursae triangular. No signum.

Holotype: ♂, Is. Amami-ôshima, Mt. Yuwan-dake, Kagoshima Pref., Japan, 11–12. iii. 1975 (T. NAITO). Paratypes. Is. Amami-ôshima—5 ♂, same data as holotype;

2 ♂, 3 ♀, type locality, 16–17. vii. 1963 (H. Inoue); 9 ♂, 1 ♀, *loc. cit.*, 9–11. vii. 1977 (A. SEINO); 19 ♂, 1 ♀, *loc. cit.*, 15–17. viii. 1977 (R. SATO); 2 ♂, Hatsuno, Sumiyô Village, 19–20. iii. 1975 (Y. FUJIMAKI); 8 ♂, *loc. cit.*, 11–13. viii. 1977 (R. SATO); 4 ♂, Mt. Yui-dake, 21–22. iii. 1975 (T. FUJIMAKI); 37 ♂, *loc. cit.*, 13–15 viii. 1977 (R. SATO); 11 ♂, Taken, Uken Village, 13. iii. 1975 (T. WATANABE); 2 ♂, Nishinakama, Sumiyô Village, 15. iii. 1975 (T. NAITO); 1 ♂, Sumiyô, 23–25. iii. 1971 (M. NAGAI).

Holotype and three paratypes will be deposited to the collection of the National Science Museum (Nat. Hist.), Tokyo. One paratype in coll. Meijo University, Nagoya, two paratypes in coll. INOUE, two paratypes in coll. British Museum (Natural History), and two paratypes in coll. der Entomologischen Abteilung Zoologischen Staatssammlung in München.

Distribution. Is. Amami-ôshima. Probably endemic to this island.

Host plant. Unknown.

Acknowledgement

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摘 要

日本産アオシャチホコ属の2新種を記載した。

Quadricalcarifera japonica sp. n. アオシャチホコ

いわゆるアオシャチホコに対する学名適用は誤りであったので、上記のように命名した。従ってオアオシャチホコに対して *Q. cyanea* (LEECH) が用いられる。

Quadricalcarifera amamiensis sp. n. アマミアオシャチホコ (新称)

奄美大島より発見された特産の新種である。